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**REMARKS**

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3       Claims 1-75 remain in the application for consideration. In view of the  
4 following remarks, Applicant traverses the Office's rejections and respectfully  
5 requests that the application be forwarded on to issuance.

6

**§102 Rejections**

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8       Claims 1-75 stand rejected under 35 U.S.C. §102(e) as being anticipated by  
9 U.S. Patent No. 6,590,604 to Tucker et al. (hereinafter "Tucker").

10      Before undertaking a discussion of the substance of the Office's rejections,  
11 the following discussion of Applicant's disclosure and the reference to Tucker is  
12 provided in an attempt to assist the Office in appreciating certain distinctions  
13 between the claimed subject matter and Tucker.

14

**Applicant's Disclosure**

15

16      Applicant's disclosure and in particular the claimed subject matter pertains  
17 to methods and systems that permit efficient processing of *user-defined multi-*  
*media editing projects* that combine multiple different source data streams into a  
18 single compressed data stream that represents the project. The described  
19 approaches are directed to ensuring that those compressed source data stream  
20 portions that need to be uncompressed for processing are uncompressed and  
21 processed, while those compressed source data stream portions that do not need to  
22 be uncompressed are not uncompressed.

23      In one embodiment, a unique switch assembly is provided comprising one  
24 or more switches each of which being configured to process data streams. The  
25

1 switch assembly is configured to process both compressed and uncompressed data  
2 streams to provide the single compressed output data stream. In one embodiment,  
3 three software-implemented switches are provided—one for handling  
4 uncompressed source data streams, one for handling compressed source data  
5 streams, and one for processing the output of the first two switches to provide the  
6 single compressed data stream.

7 As an example, consider Fig. 40, which shows a simple multi-media editing  
8 project that consists of two movies or sources 4000, 4002 that are to be displayed  
9 back-to-back, with a transition 4004 (such as a fade) between them. Assume that  
10 in addition to creating and viewing this project, the user wishes to create a new  
11 movie file on disk that can be sent to their friends. Doing this can take a very long  
12 time for the following reason. Typically, multi-media projects such as movies are  
13 never just simply RGB data. Rather, the projects are most always compressed in  
14 some way because video data is far too huge to efficiently store or send. So, in  
15 compressing movie data, a data compressor might be used that takes as long as 1  
16 sec/frame. For a short sixteen minute movie, this might take a couple of hours.  
17 Usually uncompression using a data uncompressor is much faster. This is just the  
18 nature of data compressors and uncompressors.

19 When video editing systems such as the one described in Fig. 6 are used, a  
20 filter chain is typically built to include a decoder filter that decodes all of the data  
21 so that it is no longer compressed—that is, the data is uncompressed so that it is  
22 regular RGB data. For example, the Fig. 6 system shows a decoder filter 610  
23 whose job it is to decode or uncompress media data.

24 Media data is uncompressed like this because, typically, a convenient and  
25 efficient way to combine two video data streams together and blend them in some

1 way is to take two uncompressed RGB streams and combine and blend them. In  
2 each filter chain then, only the uncompression filter (e.g. decoder filter 610)  
3 “understands” the compressed video that it is to uncompress. For example, two  
4 MPEG compressed frames generally cannot be provided to an effect and blended  
5 together. Rather, the uncompressed data associated with the MPEG-compressed  
6 frames is provided to an effect and blended. Thus far, in the examples given  
7 above, all of the data streams that have been provided to a matrix switch have been  
8 uncompressed data streams.

9 Consider the following observation with reference to the Fig. 40 project. If  
10 one were to build this project as described above, using for example, the filter  
11 graph structure 600 in Fig. 6, each of the source streams associated with sources A  
12 and B would first be processed by their respective filter chains and uncompressed.  
13 The source streams would then be combined and a transition would be  
14 incorporated for time  $t= 8-10$ . The entire project would then be subject to  
15 recompression so that it could, for example, be written to disk. Notice, however,  
16 that the only time that the source streams really need to be uncompressed, operated  
17 upon, and recompressed is the time  $t=8-10$  during which the transition is taking  
18 place. The time before and after the transition simply incorporates the source  
19 streams as they are in their original compressed state. More specifically, if the  
20 user intended to create a new project file containing the Fig. 40 project, they  
21 could, in theory, simply take the compressed portions of sources A and B outside  
22 of the transition (i.e. for times  $t=0-8, 10-16$ —within an appreciable variation) and  
23 place them in the new project file. The transition (i.e. time  $t=8-10$ ) could then be  
24 processed by uncompressing the associated source stream portions, operating upon  
25 them, recompressing them, and adding the recompressed portion to the new

1 project file. Thus, instead of having to perform the uncompression/recompression  
2 operation for an entire sixteen minute project, the uncompression/recompression  
3 need only be performed on two minutes of a project.

4 Fig. 41 illustrates an exemplary embodiment in which those portions of a  
5 multi-media project that necessarily need to be uncompressed, operated upon, and  
6 recompressed are processed in that manner. Likewise, those portions of a multi-  
7 media project that do not need to be uncompressed and processed are left in their  
8 compressed state. The two differently-processed project portions are then  
9 combined to provide a single compressed output stream that contains both project  
10 portions.

11 In this particular example, an object in the form of a switch assembly  
12 comprising three software-implemented matrix switches is employed—a  
13 uncompressed switch 4100, a compressed switch 4102, and a “smart” switch 4104.  
14 It will be appreciated and understood that while this example utilizes a three-  
15 switch implementation, it is possible to use a switch assembly having any suitable  
16 number of switches or objects. For example, a single switch could be provided  
17 and programmed to implement the desired functionality.

18 The uncompressed switch 4100 is configured to work on that part of a  
19 project that actually needs to have uncompression and various operations, i.e.  
20 transitions, effects and the like. In the Fig. 40 example, switch 4100 would work  
21 on that portion of the project corresponding to time  $t=8-10$ . Since that time period  
22 has a transition, a transition element 4100a is provided and receives the output of  
23 switch 4100 during that time. The inputs to switch 4100 are uncompressed data  
24 streams that correspond to sources A and B. Accordingly, the filter chains  
25 associated with switch 4100 that correspond to sources A and B have decoder

1 filters incorporated in them (see, e.g. decoder filter 610 in Fig. 6). Portions of  
2 each source are fed into the switch 4100, processed by the transition element or  
3 filter 4100a at the switch's output, and re-routed to the primary output of the  
4 switch as an uncompressed data stream.

5 The compressed switch 4102 is configured to process portions of the data  
6 streams where nothing requiring uncompression operations is happening. Thus,  
7 switch 4102 processes those portions of the data streams where there are no  
8 transitions or effects applied, and where the data streams can remain in their  
9 compressed state. Matrix switch 4102 receives at its input compressed data  
10 streams and is configured to route the compressed data streams through to its  
11 primary output as a compressed data stream. . In this example, the switch 4102  
12 would process the compressed data stream associated with source A during time  
13  $t=0-8$ , and the compressed data stream associated with source B during time  $t=10-16$ .  
14 The filter chains for each of the sources do not incorporate a decoder filter so  
15 that the switch receives compressed data streams.

16 Smart switch 4104 is a smart recompression switch that is coupled to  
17 receive the primary outputs of uncompressed switch 4100 and compressed switch  
18 4102. Switch 4104 has a compressor component or element 4104a that is  
19 configured to compress the uncompressed output of the uncompressed switch  
20 4100. The output of the compressor component is then re-routed to become an  
21 input to switch 4104. The primary output of switch 4104 is now the project's  
22 primary output and constitutes a compressed data stream comprising the entire  
23 project. This compressed output can, for example, be sent to a file writer so that it  
24 can be written to a file or CD.

25

1       In the Fig. 40 project example, the Fig. 41 software switch assembly works  
2 in the following way. From time  $t=0-8$ , the switch assembly allows the  
3 compressed stream corresponding to source A to pass through switches 4102 and  
4 4104 to become the primary output of switch 4104. From time  $t= 8-10$ , switch  
5 4104 passes the uncompressed, blended output of switch 4100 through compressor  
6 component 4104a, which is routed back around and serves as an input to switch  
7 4104 which is, in turn, passed to the primary output of switch 4104. From time  
8  $t=10-16$ , the output of switch 4104 is the compressed input received from switch  
9 4102 which corresponds to source B's compressed data stream. The resultant  
10 output stream of switch 4104 is the compressed stream of the entire project.

11

12       **The Tucker Reference**

13       Tucker relates to a personal videoconferencing system that includes a  
14 videoconferencing appliance connected to a personal computer through a  
15 Universal Serial Bus (USB) or similar connection. The appliance is provided with  
16 a video camera and microphone for generating local video and audio streams. The  
17 local video and audio streams are compressed by a video and audio encoder  
18 residing at the appliance, and the compressed video and audio streams are  
19 conveyed to the personal computer over the USB connection. Tucker instructs  
20 that the appliance may be further provided with an audio decoder for  
21 decompressing a remote audio stream received by the personal computer through a  
22 network interface and conveyed to the appliance via the USB connection. A video  
23 decoder, located on the personal computer, is configured to decompress the local  
24 video stream (received through the USB connection) as well as a remote video  
25 stream received through the network interface. The decompressed video streams

1 are then sent to a monitor for display to a user. The decompressed audio stream  
2 may be played either at a loudspeaker coupled to the audio decoder or at the  
3 personal computer.

4 Tucker's Fig. 1 shows a representative front view of a personal  
5 videoconferencing system 100. Videoconferencing system 100 generally includes  
6 a videoconferencing appliance 102 coupled to a personal computer 104 via a  
7 universal serial bus (USB) or comparable connection. PC 104 is provided with a  
8 conventional monitor 106 for displaying images, text and other graphical  
9 information to a user.

10 Appliance 102 is provided with a video camera 110 for continuously  
11 capturing an image of a user positioned in front of videoconferencing system 100.  
12 Appliance 102 is further provided with a microphone and an interface for an  
13 external loudspeaker (not shown in FIG. 1) for, respectively, generating audio  
14 signals representative of the user's speech and for reproducing the speech of one or  
15 more remote conference participants. The remote conference participant's speech  
16 may alternatively be reproduced at loudspeakers 112 or a headset (not shown)  
17 connected to PC 104 through a sound card, or at speakers integrated within PC  
18 104.

19 As instructed by Tucker, videoconferencing system 100 is generally  
20 operative to generate and encode local audio and video streams for transmission to  
21 a remote conference endpoint over a packet switched network, and to decode and  
22 present remote audio and video streams received from the remote conference  
23 endpoint over the network.

24 Fig. 2 is a block diagram showing interconnected hardware components of  
25 appliance 102. Video camera 110 conventionally includes a sensor and associated

1       optics for continuously capturing the image of the user and generating signals  
2       representative of the image.

3       Appliance 102 further includes a conventional microphone 204 for sensing  
4       the speech of the local user and generating audio signals representative of the  
5       speech. Microphone 204 may be integrated within the housing of  
6       videoconferencing appliance 102, or may comprise an external microphone or  
7       microphone array coupled to videoconferencing appliance 102 by a jack or other  
8       suitable interface. Microphone 204 communicates with an audio codec 206, which  
9       comprises circuitry or instructions for converting the analog signals produced by  
10      microphone 204 to a digitized audio stream. Audio codec 206 is also configured to  
11      perform digital-to-analog conversion in connection with an incoming audio data  
12      stream so that the speech of the remote user may be reproduced at conventional  
13      loudspeaker 208.

14      Locally generated audio and video streams from audio codec 206 and video  
15      camera 110 are output to a processor 210, which is programmed to encode  
16      (compress) the audio and video streams for subsequent delivery to the remote  
17      conference endpoint(s) over the packet-switched network. Processor 210 is  
18      generally configured to read in audio and video data from codec 206 and video  
19      camera 110, to compress and perform other processing operations on the audio  
20      and video data, and to output compressed audio and video streams to a PCI bus  
21      216. Processor 210 is additionally configured to receive as input through PCI bus  
22      216 an incoming (remote) compressed audio stream representative of the speech  
23      of a remote conference participant, to decompress and otherwise process the  
24      incoming audio stream and to direct the decompressed audio stream to audio  
25

1 codec 206/speaker 208 so that the remote speech may be reproduced at appliance  
2 102.

3 A universal serial bus (USB) interface 220, which includes an external  
4 connector attachable to a cable extending between interface 220 and a  
5 corresponding interface located at PC 104, is coupled to PCI bus 216 to enable bi-  
6 directional communication between appliance 102 and PC 104.

7

8 **The Office's Arguments**

9 **Claim 1** recites an *editing system* comprising:

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- a switch assembly comprising one or more software-implemented matrix switches, individual matrix switches comprising:
- one or more input pins configured to receive a data stream; and
- one or more output pins configured to output a data stream;
- the one or more input pins being routable to the one or more output pins, the switch assembly being configured to process both compressed and uncompressed data *streams to provide a compressed output data stream that represents a user-defined editing project.*

16

17 In making out the rejection of this claim, the Office argues that its subject  
18 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
19 discloses this claim's subject matter in column 2, lines 18-25, and column 5, lines  
20 23-47. These excerpts of Tucker appear below for the Office's convenience.

21

22 In accordance with one aspect of the invention, a personal  
23 videoconferencing system includes a videoconferencing appliance  
24 connected to a personal computer (PC) via a Universal Serial Bus (USB) or  
25 comparable communication interface. Processing tasks for implementing  
videoconferencing services are distributed between an onboard processor  
located within the appliance and the central processing unit (CPU).of the

1 PC. In particular, the onboard processor handles compression of a locally  
2 generated audio stream (typically representative of the speech of the local  
3 user), compression of a locally generated video stream (typically  
4 representative of an image of the local user), and echo cancellation and  
5 decompression of at least one remotely generated audio stream (typically  
6 representative of the speech of a remote user).

7 The compressed local audio and video streams, and the  
8 decompressed and echo cancelled remote audio stream, are conveyed to the  
9 PC through the USB interface. The compressed local audio and video  
10 streams are directed to a network interface for transmission over a network  
11 to a remote conference endpoint. The PC also receives compressed remote  
12 audio and video streams. The PC is configured to handle decompression of  
13 the compressed remote and local video streams, display of the local and  
14 remote video streams, and (optionally) playing of the audio stream. The PC  
15 additionally handles execution of a user interface, packetization of media  
16 streams, call establishment and control operations, and low-level network  
17 connectivity tasks.

18 *Column 2, lines 18-25.*

19 FIG. 3 is a block diagram showing hardware components of PC 104.  
20 A USB interface 302, coupled to corresponding USB interface 220 of  
21 appliance 102, sends and receives audio and video streams and related  
22 control information to and from appliance 102. PC 104 is further provided  
23 with a network interface 304 to enable communication between  
24 videoconferencing system 100 and other network-connected devices, such  
25 as another remote videoconferencing endpoint. Network interface 304 will  
typically comprise an Ethernet card which is connected to a local area  
network (LAN), cable modem, digital subscriber line (DSL) modem, or  
other suitable network access device.

26 CPU 306, which may comprise an Intel.RTM. Pentium.RTM.-class  
27 or other suitable processor, is generally operative to execute program  
28 instructions and manage hardware resources. In accordance with the  
29 distributed processing architecture of videoconferencing system 100, CPU  
30 handles decoding of locally and remotely generated video streams,  
31 display of the decoded video streams on monitor 106, media stream  
32 packetization, call establishment and control, network connectivity  
33 operations, data conferencing tasks, and execution of a user interface  
34 (whereas processor 210 of appliance 102 handles encoding of locally  
35 generated video streams).

1 generated audio and video streams and decoding of the remotely generated  
2 audio stream(s)).

3  
4 *Column 5, lines 23-47.*

5 As noted above, Tucker pertains to a personal videoconferencing systems,  
6 see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed  
7 Processing Architecture." Tucker does not disclose or suggest an *editing system*  
8 for representing a *user-defined editing project*. As such, it is virtually impossible  
9 for Tucker to disclose or suggest a switch assembly that comprises part of an  
10 *editing system* for representing a *user-defined editing project*. For at least this  
11 reason, this claim is neither anticipated by nor rendered obvious in view of  
12 Tucker. Accordingly, this claim is allowable.

13 **Claims 2-7** depend from claim 1 and are allowable as depending from an  
14 allowable base claim. These claims are also allowable for their own recited  
15 features which, in combination with those recited in claim 1, are neither disclosed  
16 nor suggested in the references of record, either singly or in combination with one  
another.

17 **Claim 8** recites an *editing system* comprising:

18

- 19     • a media processing object configured to:
  - 20         ○ receive multiple data streams comprising compressed and  
uncompressed data streams; and
  - 21         ○ process the one or more data streams to provide a compressed  
output data stream *that represents a media project*.

22  
23 In making out the rejection of this claim, the Office argues that its subject  
24 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
25

1 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
2 23-47.

3 As noted above, Tucker pertains to a personal videoconferencing systems,  
4 see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed  
5 Processing Architecture." Tucker does not disclose or suggest an *editing system*  
6 that represents a *media project*. As such, it is virtually impossible for Tucker to  
7 disclose or suggest a media processing object that comprises part of an *editing*  
8 *system* that represents a *media project*. For at least this reason, this claim is  
9 neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this  
10 claim is allowable.

11 **Claims 9-12** depend from claim 8 and are allowable as depending from an  
12 allowable base claim. These claims are also allowable for their own recited  
13 features which, in combination with those recited in claim 8, are neither disclosed  
14 nor suggested in the references of record, either singly or in combination with one  
15 another.

16 **Claim 13** recites a *multi-media editing system* comprising:

- 17 • a switch assembly comprising one or more software-implemented  
18 matrix switches, individual matrix switches comprising:
  - 19 • one or more input pins configured to receive a data stream; and
  - 20 • one or more output pins configured to output a data stream;
  - 21 • the one or more input pins being routable to the one or more output  
22 pins, the switch assembly being configured to process both  
23 compressed and uncompressed data streams to provide a compressed  
24 output data stream *that represents a user-defined multi-media*  
*editing project*; and
  - 25 • one or more data structures associated with the switch assembly and  
configured for use in programming the switch assembly to provide a  
routing scheme for routing input pins to output pins for a given  
multi-media editing project time line.

1  
2 In making out the rejection of this claim, the Office argues that its subject  
3 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
4 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
5 23-47.

6 As noted above, Tucker pertains to a personal videoconferencing systems,  
7 see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed  
8 Processing Architecture." Tucker does not disclose or suggest a ***multi-media***  
9 ***editing system*** for representing a ***user-defined multi-media editing project***. As  
10 such, it is virtually impossible for Tucker to disclose or suggest a switch assembly  
11 and data structure(s) that comprise part of a ***multi-media editing system*** for  
12 representing a ***user-defined multi-media editing project***. For at least this reason,  
13 this claim is neither anticipated by nor rendered obvious in view of Tucker.  
14 Accordingly, this claim is allowable.

15 **Claims 14-20** depend from claim 13 and are allowable as depending from  
16 an allowable base claim. These claims are also allowable for their own recited  
17 features which, in combination with those recited in claim 13, are neither disclosed  
18 nor suggested in the references of record, either singly or in combination with one  
19 another.

20 **Claim 21** recites a ***multi-media editing system*** comprising:

21

- 22 • a switch assembly comprising one or more non-hardware matrix  
switches, individual matrix switches comprising:
- 23 • one or more input pins configured to receive a data stream; and
- 24 • one or more output pins configured to output a data stream;
- 25 • the one or more input pins being routable to the one or more output  
pins, the switch assembly being configured to process both  
compressed and uncompressed data streams to provide a compressed

output data stream that *represents a user-defined multi-media editing project*.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a *multi-media editing system* for representing a *user-defined multi-media editing project*. As such, it is virtually impossible for Tucker to disclose or suggest a switch assembly that comprises part of a *multi-media editing system* for representing a *user-defined multi-media editing project*. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

**Claims 22-27** depend from claim 21 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 21, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

**Claim 28** recites an media processing system comprising:

- switch means for receiving compressed and uncompressed data streams *associated with sources that are to be incorporated into a project* and processing the compressed and uncompressed data streams to provide *a single compressed output stream that represents the project*; and
- programming means associated with the switch means and configured to program the switch means to provide the single compressed output stream.

1  
2 In making out the rejection of this claim, the Office argues that its subject  
3 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
4 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
5 23-47.

6 As noted above, Tucker pertains to a personal videoconferencing systems,  
7 see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed  
8 Processing Architecture." Tucker does not disclose or suggest a ***media processing***  
9 ***system*** for representing a ***project***, as that term is understood in the context of  
10 Applicant's disclosure. As such, it is virtually impossible for Tucker to disclose or  
11 suggest a switch means and programming means that comprise part of a ***media***  
12 ***processing system*** for representing a ***project***. For at least this reason, this claim is  
13 neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this  
14 claim is allowable.

15 **Claims 29-32** depend from claim 28 and are allowable as depending from  
16 an allowable base claim. These claims are also allowable for their own recited  
17 features which, in combination with those recited in claim 28, are neither disclosed  
18 nor suggested in the references of record, either singly or in combination with one  
19 another.

20 **Claim 33** recites a ***multi-media editing system*** comprising:

21

- 22 • a first software-implemented matrix switch comprising one or more  
23 input pins and one or more output pins, the one or more input pins  
24 being routable to the one or more output pins, the first matrix switch  
25 being configured to process one or more uncompressed data streams  
and output an uncompressed data stream;
- a second software-implemented matrix switch comprising one or  
more input pins and one or more output pins, the one or more input

1 pins being routable to the one or more output pins, the second matrix  
2 switch being configured to process one or more compressed data  
3 streams and output a compressed data stream; and  
4

- 5 a third software-implemented matrix switch comprising multiple  
6 input pins and multiple output pins, the input pins being routable to  
7 one or more output pins, the third matrix switch being configured to  
8 receive an uncompressed data stream from the first switch and a  
9 compressed data stream from the second switch and process the  
10 received data streams to provide a single compressed output data  
11 stream that *represents a user-defined multi-media editing project*.

12  
13 In making out the rejection of this claim, the Office argues that its subject  
14 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
15 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
16 23-47.

17 As noted above, Tucker pertains to a personal videoconferencing systems,  
18 see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed  
19 Processing Architecture." Tucker does not disclose or suggest a *multi-media*  
20 *editing system* for representing a *user-defined multi-media editing project*. As  
21 such, it is virtually impossible for Tucker to disclose or suggest a first software-  
22 implemented switch, a second software-implemented switch and a third software-  
23 implemented switch that comprises part of a *multi-media editing system* for  
24 representing a *user-defined multi-media editing project*. For at least this reason,  
25 this claim is neither anticipated by nor rendered obvious in view of Tucker.  
Accordingly, this claim is allowable.

26 **Claims 34-37** depend from claim 33 and are allowable as depending from  
27 an allowable base claim. These claims are also allowable for their own recited  
28 features which, in combination with those recited in claim 33, are neither disclosed  
29

1 nor suggested in the references of record, either singly or in combination with one  
2 another.

3 **Claim 38** recites a ***multi-media editing system*** comprising:

4

- 5 • first software switch means for processing one or more  
6 uncompressed data streams to provide an uncompressed data stream,  
7 the switch means comprising at least one feedback loop that  
8 modifies a data stream that is output by the switch means and  
9 provides the modified data stream as an input to the switch means;
- 10 • second software switch means for processing one or more  
11 compressed data streams to provide a compressed data stream; and
- 12 • a third software switch means for receiving an uncompressed data  
13 stream from the first software switch means and a compressed data  
14 stream from the second software switch and processing the received  
15 data streams to provide a single compressed output data stream that  
16 ***represents a user-defined multi-media editing project.***

17 In making out the rejection of this claim, the Office argues that its subject  
18 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
19 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
20 23-47.

21 As noted above, Tucker pertains to a personal videoconferencing systems,  
22 see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed  
23 Processing Architecture." Tucker does not disclose or suggest a ***multi-media***  
24 ***editing system*** for representing a ***user-defined multi-media editing project.*** As  
25 such, it is virtually impossible for Tucker to disclose or suggest first software  
switch means, a second software switch means and third software switch means  
that comprise part of a ***multi-media editing system*** for representing a ***user-defined***  
***multi-media editing project.*** For at least this reason, this claim is neither

1 anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is  
2 allowable.

3 **Claim 39** depends from claim 38 and is allowable as depending from an  
4 allowable base claim. This claim is also allowable for its own recited features  
5 which, in combination with those recited in claim 38, are neither disclosed nor  
6 suggested in the references of record, either singly or in combination with one  
7 another.

8 **Claim 40** recites a ***multi-media editing system*** comprising:

- 9 • a first software-implemented matrix switch comprising one or more  
10 input pins and one or more output pins, the one or more input pins  
11 being routable to the one or more output pins, the first matrix switch  
12 being configured to process one or more uncompressed data streams  
13 and output an uncompressed data stream;
- 14 • a second software-implemented matrix switch comprising one or  
15 more input pins and one or more output pins, the one or more input  
16 pins being routable to the one or more output pins, the second matrix  
17 switch being configured to process one or more compressed data  
18 streams and output a compressed data stream;
- 19 • a third software-implemented matrix switch comprising multiple  
20 input pins and multiple output pins, the input pins being routable to  
21 one or more output pins, the third matrix switch being configured to  
22 receive an uncompressed data stream from the first switch and a  
23 compressed data stream from the second switch and process the  
24 received data streams to provide a single compressed output data  
25 stream that ***represents a user-defined multi-media editing project***;  
and
- one or more data structures associated with at least some of the  
matrix switches and configured for use in programming the  
associated switches to provide a routing scheme for routing input  
pins to output pins.

23  
24 In making out the rejection of this claim, the Office argues that its subject  
25 matter is anticipated by Tucker. Specifically, the Office argues that Tucker

1 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
2 23-47.

3 As noted above, Tucker pertains to a personal videoconferencing systems,  
4 see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed  
5 Processing Architecture." Tucker does not disclose or suggest a ***multi-media***  
6 ***editing system*** for representing a ***user-defined multi-media editing project***. As  
7 such, it is virtually impossible for Tucker to disclose or suggest a first software-  
8 implemented matrix switch, a second software-implemented matrix switch, a third  
9 software-implemented matrix switch and data structure(s) that comprise part of a  
10 ***multi-media editing system*** for representing a ***user-defined multi-media editing***  
11 ***project***. For at least this reason, this claim is neither anticipated by nor rendered  
12 obvious in view of Tucker. Accordingly, this claim is allowable.

13 **Claims 41-43** depend from claim 40 and are allowable as depending from  
14 an allowable base claim. These claims are also allowable for their own recited  
15 features which, in combination with those recited in claim 40, are neither disclosed  
16 nor suggested in the references of record, either singly or in combination with one  
17 another.

18 **Claim 44** recites a ***multi-media editing method*** comprising:

19

- 20 • ***providing a switch assembly*** comprising one or more software-  
21 implemented matrix switches, individual matrix switches comprising  
22 one or more input pins and one or more output pins, the one or more  
23 input pins being routable to the one or more output pins, the switch  
24 assembly being configured to process both compressed and  
25 uncompressed data streams to provide a compressed output data  
stream ***that represents a user-defined multi-media editing project***;  
and

1

- programming the switch assembly using one or more data structures,  
2 said programming providing a routing scheme for routing input pins  
3 to output pins for a given time period.

4

5 In making out the rejection of this claim, the Office argues that its subject  
6 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
7 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
8 23-47.

9

10 As noted above, Tucker pertains to personal videoconferencing systems and  
11 methods, see, e.g. Tucker's title "Personal Videoconferencing System Having  
12 Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-***  
13 ***media editing method*** for representing a ***user-defined multi-media editing***  
14 ***project***. As such, it is virtually impossible for Tucker to disclose or suggest  
15 providing a switch assembly and programming the switch assembly using data  
16 structure(s) in accordance with a ***multi-media editing method*** for representing a  
17 ***user-defined multi-media editing project***. For at least this reason, this claim is  
18 neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this  
19 claim is allowable.

20

21 **Claims 45-56** depend from claim 44 and are allowable as depending from  
22 an allowable base claim. These claims are also allowable for their own recited  
23 features which, in combination with those recited in claim 44, are neither disclosed  
24 nor suggested in the references of record, either singly or in combination with one  
25 another.

26

27 **Claim 57** recites one or more computer-readable media having computer-  
28 readable instructions thereon which, when executed by a computer, cause the  
29 computer to:

- provide a switch assembly comprising multiple software-implemented matrix switches, individual matrix switches comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins, the switch assembly comprising:
  - a first switch configured to process uncompressed data streams to provide an uncompressed output data stream;
  - a second switch configured to process compressed data streams to provide a compressed output data stream; and
  - a third switch configured to receive both the uncompressed and compressed output data streams and process the data streams to provide a compressed output data stream that *represents a user-defined multi-media editing project*; and
- program the switch assembly by defining a first grid structure containing data that defines an association between the first switch's input pins, at least one output pin and a time line defined by the editing project, and defining a second grid structure containing data that defines an association between the second switch's input pins, at least one output pin and the time line defined by the editing project.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to personal videoconferencing systems and methods, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a system that comprises instructions that provide a switch assembly for representing a *user-defined multi-media editing project*. As such, it is virtually impossible for Tucker to disclose or suggest such a system that comprises first, second and third switches as recited in this claim. For at least this reason, this claim is neither

1 anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is  
2 allowable.

3 **Claims 58-62** depend from claim 57 and are allowable as depending from  
4 an allowable base claim. These claims are also allowable for their own recited  
5 features which, in combination with those recited in claim 57, are neither disclosed  
6 nor suggested in the references of record, either singly or in combination with one  
7 another.

8 **Claim 63** recites a ***multi-media editing method*** comprising:

- 9 • providing a first software-implemented matrix switch comprising  
10 one or more input pins and one or more output pins, the one or more  
11 input pins being routable to the one or more output pins, the first  
12 matrix switch being configured to process one or more  
13 uncompressed data streams and output an uncompressed data  
14 stream;
- 15 • providing a second software-implemented matrix switch comprising  
16 one or more input pins and one or more output pins, the one or more  
17 input pins being routable to the one or more output pins, the second  
18 matrix switch being configured to process one or more compressed  
19 data streams and output a compressed data stream;
- 20 • providing a third software-implemented matrix switch comprising  
21 multiple input pins and multiple output pins, the input pins being  
22 routable to one or more output pins;
- 23 • receiving, with the third matrix switch, an uncompressed data stream  
24 from the first switch and a compressed data stream from the second  
25 switch; and
- 26 • processing the received data streams with the third switch to provide  
27 a single compressed output data stream that ***represents a user-defined multi-media editing project.***

28 In making out the rejection of this claim, the Office argues that its subject  
29 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
30

1 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
2 23-47.

3 As noted above, Tucker pertains to personal videoconferencing systems and  
4 methods, see, e.g. Tucker's title "Personal Videoconferencing System Having  
5 Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-***  
6 ***media editing method*** for representing a ***user-defined multi-media editing***  
7 ***project***. As such, it is virtually impossible for Tucker to disclose or suggest  
8 providing a first, second and third software-implemented matrix switches as  
9 recited in this claim. For at least this reason, this claim is neither anticipated by  
10 nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

11 **Claims 64-66** depend from claim 63 and are allowable as depending from  
12 an allowable base claim. These claims are also allowable for their own recited  
13 features which, in combination with those recited in claim 63, are neither disclosed  
14 nor suggested in the references of record, either singly or in combination with one  
15 another.

16 **Claim 67** recites one or more computer-readable media having computer-  
17 readable instructions thereon which, when executed by a computer, cause the  
18 computer to:

19

- 20     • process at least one compressed data stream to provide an output  
21        compressed data stream ***that comprises a portion of a user-defined***  
22        ***multi-media editing project*** that is associated with a data stream  
23        source;
- 24     • process one or more uncompressed data streams to manipulate the  
25        one or more uncompressed data streams to provide an output  
      uncompressed data stream ***that comprises a different portion of a***  
      ***user-defined multi-media editing project*** that is associated with one  
      or more data stream sources;
- 26     • compress the output uncompressed data stream; and

1

- 2 associate the output compressed data stream and the compressed  
3 output uncompressed data stream together to provide a compressed  
4 stream ***that represents a user-defined multi-media editing project.***

5

6

7 In making out the rejection of this claim, the Office argues that its subject  
8 matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
9 discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
10 23-47.

11

12 As noted above, Tucker pertains to personal videoconferencing systems and  
13 methods, see, e.g. Tucker's title "Personal Videoconferencing System Having  
14 Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-***  
15 ***media editing system*** for representing a ***user-defined multi-media editing project.***  
16 For at least this reason, this claim is neither anticipated by nor rendered obvious in  
17 view of Tucker. Accordingly, this claim is allowable.

18

19 **Claims 68-69** depend from claim 67 and are allowable as depending from  
20 an allowable base claim. These claims are also allowable for their own recited  
21 features which, in combination with those recited in claim 67, are neither disclosed  
22 nor suggested in the references of record, either singly or in combination with one  
23 another.

24

25 **Claim 70** recites one or more computer-readable media having computer-  
readable instructions thereon which, when executed by a computer, cause the  
computer to:

26

- 27 receive and process one or more uncompressed data streams with a  
28 first software-implemented matrix switch comprising one or more  
29 input pins and one or more output pins, the one or more input pins  
30 being routable to the one or more output pins to output an  
31 uncompressed data stream;

- 1     • receive and process one or more compressed data streams with a  
2         second software-implemented matrix switch comprising one or more  
3         input pins and one or more output pins, the one or more input pins  
4         being routable to the one or more output pins to output a compressed  
5         data stream;
- 6     • receive and process the uncompressed data stream that is output by  
7         the first switch and the compressed data stream that is output by the  
8         second switch with a third software-implemented matrix switch  
9         comprising multiple input pins individual ones of which receive data  
10        streams, and one or more output pins individual ones of which  
11        provide data streams, the one or more input pins being routable to  
12        the one or more output pins to output, at one output pin, a  
13        compressed data stream that **represents a user-defined multi-media**  
14        **editing project.**

10           In making out the rejection of this claim, the Office argues that its subject  
11        matter is anticipated by Tucker. Specifically, the Office argues that Tucker  
12        discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines  
13        23-47.

14           As noted above, Tucker pertains to personal videoconferencing systems and  
15        methods, see, e.g. Tucker's title "Personal Videoconferencing System Having  
16        Distributed Processing Architecture." Tucker does not disclose or suggest a **multi-**  
17        **media editing system** for representing a **user-defined multi-media editing project**.  
18        For at least this reason, this claim is neither anticipated by nor rendered obvious in  
19        view of Tucker. Accordingly, this claim is allowable.

20           **Claims 71-75** depend from claim 70 and are allowable as depending from  
21        an allowable base claim. These claims are also allowable for their own recited  
22        features which, in combination with those recited in claim 70, are neither disclosed  
23        nor suggested in the references of record, either singly or in combination with one  
24        another.

## **Conclusion**

All of the claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully Submitted,

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By:

Lance R. Sadler  
Reg. No. 38,605  
(509) 324-9256